

CLOUDS AS GALE PROGNOSTICS ON THE NORTH ATLANTIC COAST.

By ERNEST S. CLOWES.

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There having recently been published in the MONTHLY WEATHER REVIEW several articles on the forecasting value of clouds, it seems that the following observations might be of interest to some readers, especially those along the Atlantic coast. While the phenomena referred to here have only been observed by the writer on eastern Long Island, N. Y., it seems as if they might have a fairly wide application.

Northwest gales, usually with clear skies, are frequent along the north Atlantic coast in winter. These often continue for several days, even when the storm center has moved as far east as Newfoundland. A peculiarity of these gales is that they frequently abate around sunrise, the wind falling to a gentle or light breeze. If the sky is then cloudless or if the clouds are high or are distributed without reference to the coast line the gale is over; but if, on the other hand, there is a long bank of St.Cu. over the ocean and parallel to the coast while the rest of the sky is clear the wind will increase to gale force an hour or so after sunrise and blow hard all day. The writer has observed this condition during five winters, and without having kept notes on it would say that it was a very accurate indication indeed of the weather and especially of the wind for the coming day. It would seem to be due to the fact that when the gale is over the upper winds are light and probably relatively warm but that when the abatement is merely temporary the cold NW. wind is still blowing not far above the surface, and clouds are formed from the convection and perhaps mixture of it with the relatively warm moist air rising from the sea. Such clouds disappear during the forenoon, when the lower air has become well mixed.

Another local weather sign equally good in winter is a greenish-yellow sky at sunset with the western sky largely covered with patches of dense St. or St.Cu. with sharp, hard outlines. The greenish-yellow sky at sunset is indicative of very clear air, favorable to strong nocturnal cooling, while the patches of dense St. or St.Cu.

with sharp, hard outlines are formed both by eddy action set up by the surface irregularities in a strong wind, and by the thermal convection resulting from the steep temperature gradient produced by the rapid arrival of cold air above the slower-moving surface air. Such a sunset with the wind somewhere between SW. and NW. even if it be only a light breeze almost always means a NW. gale before morning accompanied by a drop in temperature approaching or equalling a cold wave.

While the writer has not had the opportunity to observe these phenomena elsewhere than on Long Island, it seems to him that as they are probably due, especially the former, to conditions prevailing generally along the coast in winter they should be of general application over that region and that it would be of interest to know if they have been noted by other observers. If verified they should be of some value to ship masters and others out of touch with the daily forecasts.

THE SCINTILLATION OF STARS AND THE FORECASTING OF WEATHER.

By M. MOYE.

(Abstracted from Société Languedocienne de Géographie Bulletin, Montpellier, vol. 41, 1st and 2d quarters, 1918, pp. 37-39.)

Due to the variable refraction of starlight in passing through layers of air of greater or less turbulence, it is suggested that a simple means of forecasting local weather is to be found in observing the degree of twinkling or intensity of scintillation. The proposal is simply to observe on a certain scale the degree of scintillation and the current weather. The best scale consists of four grades, such as none, feeble, average, or intense. Then, by comparing the observation with what occurs the next day or the second day following, it may be possible to obtain a fairly reliable means for forecasting changes of weather. It is suggested that observations should not be made either at the zenith or at the horizon, as the scintillation is, respectively, less than or greater than normal; also it is well to restrict oneself to the stars of the first and second magnitudes, as they will indicate the conditions well enough.—C. L. M.